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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,885	10/28/2003	Won Hee Lee	P24483	4025
7055	7590	03/09/2006	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			MCCRAW, BARRY CLAYTON	
			ART UNIT	PAPER NUMBER
			3744	

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/693,885

Applicant(s)

LEE ET AL.

Examiner

B. Clayton McCraw

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 January 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/28/2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1, 2, and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinkel et al. (US 5,970,723). Kinkel et al. explicitly teaches the structure and method an air conditioning system comprising a first cooling device with both heating and cooling functions (Figure 20, 116; col. 3, lines 47-51), a second

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cooling device comprising a blower (Figure 20, 120) and a humidifying device (Figure 20, 118), a humidity sensor (Figure 20, 172), a control unit electrically connected to the first cooling device, second cooling device, and humidity sensor (Figure 20, 170), alternatively driving either the first cooling device or the second cooling device according to the outdoor air humidity transmitted from the humidity sensor (col. 10, lines 1-11); and the blower being an axial flow fan (Figure 20, 120; note axial direction blower is pointing).

Regarding lines 2-7 of claim 1, although Kinkel et al. does not explicitly disclose a compressor, outdoor heat exchanger, indoor heat exchanger, passage control device, or an expansion device, one of ordinary skill in the art would recognize that his first cooling device with both heating and cooling functions would obviously provide these features (col. 6, lines 60-64).

Regarding line 10 of claim 1, whether the humidified air is on the inlet or outlet side of the blower does not change the fact that either way, the system is supplying moisture to outdoor air being blown into the conditioned area (col. 7, lines 7-16).

5. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinkel et al. (US 5,970,723) in view of Welch (US 4,968,457). Kinkel et al. teaches all the aspects of the present invention as described above, but does not explicitly teach the humidifying device comprising a cooling pad of well-ventilated material, containing moisture, and a plurality of holes. Welch explicitly teaches an evaporative cooling device with a cooling pad made of well-ventilated material and containing moisture (Figure 3, 6; col. 3, lines 25-28) and a plurality of holes through which the air passes

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(col. 3, lines 25-28; since it is disclosed that air passes through the pad, it is inherent that there are holes for the air to pass through). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the cooling system as taught by Kinkel et al. with the cooling pad as taught by Welch since cooling pads are an obvious feature included in any humidifier.

6. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinkel et al. (US 5,970,723) in view of Welch (US 4,968,457) in further view of Cardinal (US 3,833,052). Kinkel et al. teach the aspects of the present invention as disclosed above, but fail to teach a filter provided at a side of the humidifying device. Cardinal explicitly teaches a filter at a side of the humidifying device (Figure 1, 26). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the cooling system and humidifier as taught by Kinkel et al. and Welch with the filter as taught by Cardinal, as filtering dirt out of air is clearly a desirable result.

Regarding claim 7, it would have been an obvious matter of design choice to place the filter in between the blower and the cooling pad, since the function of filtering the air is accomplished regardless of whether the filter is placed at the input of the blower, output of the blower, input of the cooling pad, or output of the cooling pad.

7. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinkel et al. (US 5,970,723) in view of Yoshiya (US 6,116,033). Kinkel et al. teaches the aspects of the present invention as listed above, but fails to teach a tank storing refrigerant, a pump pumping refrigerant, or a sprayer spraying refrigerant. Yoshiya explicitly teaches a tank storing refrigerant (Figure 1, 10), a pump pumping refrigerant

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(Figure 1, 7), and a sprayer spraying refrigerant (Figure 1, 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the cooling system as taught by Kinkel et al. with the evaporative cooler as taught by Yoshiya since circulating water from a tank and spraying onto a cooling pad provides the ability to remove harmful micro-organisms and bacteria from the air.

8. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinkel et al. (US 5,970,723) in view of Yoshiya (US 6,116,033) and in further view of Megrditchian (US 4,726,197). Kinkel et al. and Yoshiya explicitly teach the aspects of the present invention as described above, but do not teach the tank storing refrigerant located to cover the bottom of the cooling pad. Megrditchian explicitly teaches the tank storing refrigerant (Figure 6, 125) covering the bottom of the cooling pad (Figure 6, 192). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the cooling system taught by Kinkel et al. and Yoshiya with the tank underneath the cooling pad as taught by Megrditchian since this would clearly transfer fluid from the cooling pad back into the tank for reuse and promote the conservation of water.

9. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinkel et al. (US 5,970,723) in view of Welch (US 4,968,457) in further view of Yoshiya (US 6,116,033). Kinkel et al. teaches the aspects of the present invention as described above, but does not teach the humidifying device comprising a cooling pad of well-ventilated material, containing moisture, and a plurality of holes. As explained above, Welch explicitly teaches this. Kinkel et al. also do not explicitly teach a tank

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storing refrigerant, a pump pumping refrigerant, or a sprayer spraying refrigerant. As explained above, Yoshiya explicitly teaches these items in a humidifier. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the cooling system as taught by Kinkel et al. with the humidifying aspects as taught by Welch and Yoshiya, since circulating water from a tank and spraying onto a cooling pad provides the ability to remove harmful micro-organisms and bacteria from the air.

10. Regarding claims 12 and 13, it would have been an obvious matter of design choice to place the filter at the outlet side of the cooling pad or between the blower and the cooling pad, since the function of filtering the air is accomplished regardless of whether the filter is placed at the input of the blower, output of the blower, input of the cooling pad, or output of the cooling pad.

11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kinkel et al. (US 5,970,723) in view of Welch (US 4,968,457) in further view of Yoshiya (US 6,116,033) and in further view of Megrditchian (US 4,726,197). Kinkel et al., Welch, and Yoshiya explicitly teach the aspects of the present invention as described above, but do not teach the tank storing refrigerant located to cover the bottom of the cooling pad. Megrditchian explicitly teaches the tank storing refrigerant (Figure 6, 125) covering the bottom of the cooling pad (Figure 6, 192). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the cooling system taught by Kinkel et al., Welch, and Yoshiya with the tank underneath the cooling pad as taught

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by Megrditchian since this would clearly transfer fluid from the cooling pad back into the tank for reuse and promote the conservation of water.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Johnson et al. (US 5,857,350) teach an evaporative cooling device; Asbridge (US 5,309,726) teach an evaporative cooler; Kinkel et al. (US 6,202,429) teach an evaporative cooling unit; Huang (US 3,943,841) teaches a blower with the humidifier on the outlet side; and Schafka (US 6,129,285) teaches a system and method for humidification.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to B. Clayton McCraw whose telephone number is (571) 272-3665. The examiner can normally be reached on M-F 8:30AM-5:00PM.

14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



BCM  
2/16/2006



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